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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,502	02/27/2002	Koji Yamamoto	219455USOPCT	3397

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EXAMINER	
NGUYEN, TAM M	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/069,502	YAMAMOTO ET AL.	
	Examiner	Art Unit	
	Tam M. Nguyen	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimer filed on January 26, 2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S Patent No. 6,525,235 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Amendment

The rejection of claims 10-25 under 35 USC § 102 and 103 is withdrawn by the examiner in view of the amendment filed on January 26, 2004.

Since a new Final rejection follows, Applicants argument will not be addressed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10, 11, 13-16, 18, 19, 21-24, 26, and 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka et al. (EP 0939068) in view of Takagawa et al. (6,072,098)

Nagaoka discloses a process for manufacturing highly pure 2,6-dimethylnaphthalene by cooling crystallization of a mixture containing dimethylnaphthalene which includes 2,6-dimethylnaphthalene and about 16 wt. % of 2,7-dimethylnaphthalene to produce a solid containing 80 wt. % or more of 2,6-dimethylnaphthalene and a mother liquid. The mother liquid is then separated from the solid by means of press-filtration. The solid is then washed with solvent which is then separated by distillation to produce a 2, 6-dimethylnaphthalene having a high purity of 99 wt. % or more wherein the solvent used in the process is benzene or toluene. (See entire patent)

Nagaoka does not disclose that the solvent is an aliphatic and/or alicyclic hydrocarbon.

Takagawa discloses a process for producing highly pure 2,6 dimethylnaphthalene by using a solvent which is an aliphatic or alicyclic hydrocarbon. (See col. 5, line 61 through col. 6, line 4; col. 6, lines 40-48)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Nagaoka by using an aliphatic hydrocarbon (e.g., hexane and octane) as taught by Takagawa because aromatic and aliphatic hydrocarbons have an equivalent function in the process of purifying 2,6 dimethylnaphthalene.

Nagaoka does not specifically disclose that the feedstock comprises less than 25 wt. % of 2,6-dimethylnaphthalene. However, Nagaoka discloses that a feedstock comprising less than 40 wt. % of 2,6-dimethylnaphthalene can be used in the process. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Nagaoka by using a feedstock comprising the claimed amount of 2,6-dimethylnaphthalene because one of skill in the art would use a feed comprising any amount of 2,6-dimethylnaphthalene which is less than 40 wt. % including the claimed amount.

Nagaoka does not disclose that the washing step is performed at least twice and part or the entirety of a mother liquor obtained in a second washing step or in a subsequent washing step is used as a solvent in a washing step performed prior to the washing step at which the mother liquor is obtained. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Nagaoka by washing the solid twice as claimed because subsequent washing would produce a cleaner solid and to use all or part of the cleaning mother liquid obtained from the second and subsequent cleaning step as a solvent because using the cleaning mother liquid as a solvent would produce a high purified product without employing an additional step of separating an added solvent from the product.

Claims 12, 17, 20, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka et al. (EP 0939068) in view of Takagawa et al. (6,072,098) and Kobe et al. (JP-5331079)

Nagaoka does not specifically disclose that the press-filtration step is operated at a pressure of 10 kg/cm^2 or more. However, Kobe discloses the press-filtration step is operated at a pressure of 50 atm (51 kg/cm^2) or higher. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Nagaoka by using the Kobe pressure because such pressure is effective to separate solid from liquid.

Kobe does not specifically disclose that the press filtration is performed using a tube press. However, it is know that in press filtration, a tube press, filter press, a plate press, a cage press, belt press, and a screw press have an equivalent function. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Kobe by using a tube press because one of skill in the art would use any press filtration including a tube press.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (571) 272-1452. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam M. Nguyen
Examiner
Art Unit 1764

TN

Walter D. Griffin
Primary Examiner